IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with <u>underlining</u> and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1-14. (canceled)

15. (previously presented) A ruled line extracting apparatus, comprising:

a straight line extracting unit extracting information of one or more straight line patterns from an input image; and

a straight line deleting unit determining whether or not to delete one among the one or more straight line patterns by using information about a ratio between a height and a width of the one among the one or more straight line patterns.

16-27. (canceled)

28. (previously presented) A computer-readable storage medium, when used by a computer, to direct the computer to perform the functions of:

extracting information of one or more straight line patterns from an input image; and

determining whether or not to delete one among the one or more straight line patterns, using at least either of information about a ratio between a height and a width of the one among the one or more straight line patterns.

29-38. (canceled)

39. (previously presented) A ruled line extracting method, comprising the steps of:

extracting information of one or more straight line patterns from an input image; and

determining whether or not to delete one among the one or more straight line patterns, using at least either of information about a ratio between a height and a width of the one among the one or more straight line patterns.

40-44. (canceled)

45   (currently amended) A ruled line extracting apparatus, comprising:

a segment extracting unit extracting black pixel concatenation regions from an input image and extracting one or more segment patterns using the black pixel concatenation regions;

a straight line extracting unit extracting information of one or more straight line patterns ~~from an input image~~each of which includes the extracted segment patterns; and

a straight line deleting unit deleting a first straight line pattern among the one or more straight line patterns when the first straight line pattern is adjacent to a second straight line pattern among the one or more straight line patterns and a length of the first straight line pattern is less than a threshold value.

46.   (currently amended) A ruled line extracting process, comprising:

extracting black pixel concatenation regions from an input image and extracting one or more segment patterns using the black pixel concatenation regions;

extracting information of one or more straight line patterns each of which includes the extracted segment patterns ~~from an input image~~; and

deleting a first straight line pattern among the one or more straight line patterns when the first straight line pattern is adjacent to a second straight line pattern among the one or more straight line patterns and a length of the first straight line pattern is less than a threshold value.

47.   (previously presented) computer-readable storage medium, when used by a computer, to direct the computer to perform the functions of:

extracting black pixel concatenation regions from an input image and extracting one or more segment patterns using the black pixel concatenation regions;

extracting information of one or more straight line patterns each of which includes the extracted segment patterns ~~from an input image~~; and

deleting a first straight line pattern among the one or more straight line patterns when the first straight line pattern is adjacent to a second straight line pattern among the one or more straight line patterns and a length of the first straight line pattern is less than a threshold value.

48. (previously presented) A ruled line extracting apparatus, comprising:

a straight line extracting unit extracting information of one or more straight line patterns from an input image; and

a straight line deleting unit deleting a first straight line pattern among the one or more straight line patterns when the first straight line pattern is adjacent to a second straight line pattern among the one or more straight line patterns and a distance between the first and second straight line patterns is less than a threshold value.

49. (previously presented) A ruled line extracting process, comprising:

extracting information of one or more straight line patterns from an input image; and

deleting a first straight line pattern among the one or more straight line patterns when the first straight line pattern is adjacent to a second straight line pattern among the one or more straight line patterns and a distance between the first and second straight line patterns is less than a threshold value.

50. (previously presented) A computer-readable storage medium, when used by a computer, to direct the computer to perform the functions of:

extracting information of one or more straight line patterns from an input image; and

deleting a first straight line pattern among the one or more straight line patterns when the first straight line pattern is adjacent to a second straight line pattern among the one or more straight line patterns and a distance between the first and second straight line patterns is less than a threshold value.